WHAT IS CLAIMED IS:

1. A Z-chromosomal marker DNA selected from the group consisting of Sequence I (43. Seq), Sequence 2 (71. Seq), Sequence 3 (80. Seq), Sequence 4 (81. Seq), Sequence 5 (131. Seq), Sequence 6 (147. Seq), Sequence 7 (166. Seq), Sequence 8 (196. Seq), Sequence 9 (199. Seq), Sequence 10 (204. Seq), Sequence 11 (235. Seq), Sequence 12 (249. Seq), Sequence 13 (258. Seq), Sequence 14 (290. Seq), Sequence 15 (309. Seq), Sequence 16 (341. Seq), Sequence 17 (398. Seq), Sequence 18 (420. Seq), and Sequence 19 (435. Seq).

2. A Z-chromosomal DNA library that contains at least one DNA sequence according to Claim 1.

3. A method of using at least one Z-chromosomal DNA according to Claim 1 for genetic mapping.

4. The method of Claim 3, wherein the genetic mapping is effected to construct a Z-chromosome-specific DNA map.

5.   The method of Claim 3, wherein the Z-chromosome DNA map is that of an avian species selected from the group consisting of chicken, turkey, partridge, duck, guinea hen, and goose.

6.   The method of Claim 4, which is used to identify gross chromosomal rearrangements.

7.   The method of Claim 6, wherein said chromosomal rearrangement comprises a translocation, deletion or duplication.